

Research to Practice: Supporting Language and Cognitive Development in Early Head Start

Early Head Start Research and Evaluation Project

The first 3 years of a child's life are critically important for language and cognitive development. Studies reveal that children's early language development sets the stage for later literacy and school success. Yet, children from low-income families often lag behind middle-income peers in language development when they enter school. One seminal study (Hart & Risley, 1995) showed that during the early years, low-income children are exposed to less language in their homes on a daily basis than middle-income children. As a consequence, children living in poverty enter kindergarten with a vocabulary



that is one-fourth the size of vocabularies of children from higher-income families. This Research to Practice brief examines how children in the Early Head Start Research and Evaluation Project were faring at three key ages in language and cognitive development and identifies critical early language and literacy experiences that appear to make a difference in children's development. The brief also suggests ways parents and program staff can positively affect infant and toddler competencies in language and cognitive development.

RESULTS FROM THE EVALUATION

Early Head Start children perform significantly better than control group children, but fall below national norms.

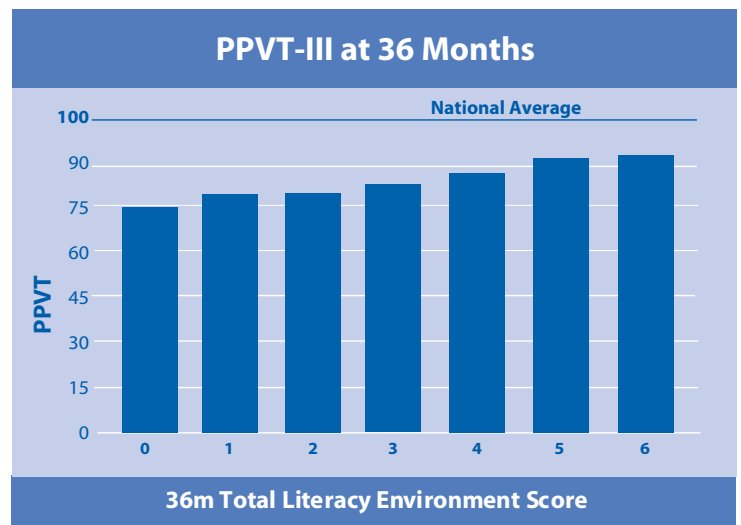
The Early Head Start Research and Evaluation Project found that on average, Early Head Start children performed significantly better on a standardized assessment of cognitive development (the Bayley Scales of Infant Development II, Mental Development Index [MDI]; Early Head Start = 91.4 vs. control group = 89.9) and language development (Peabody Picture Vocabulary Test-III; Early Head Start = 83.3 vs. control group = 81.1) than control group children at 36 months old). However, Early Head Start children still performed below the national norm of 100.

A number of analyses using non-experimental techniques provide additional information about children's language and cognitive environments.

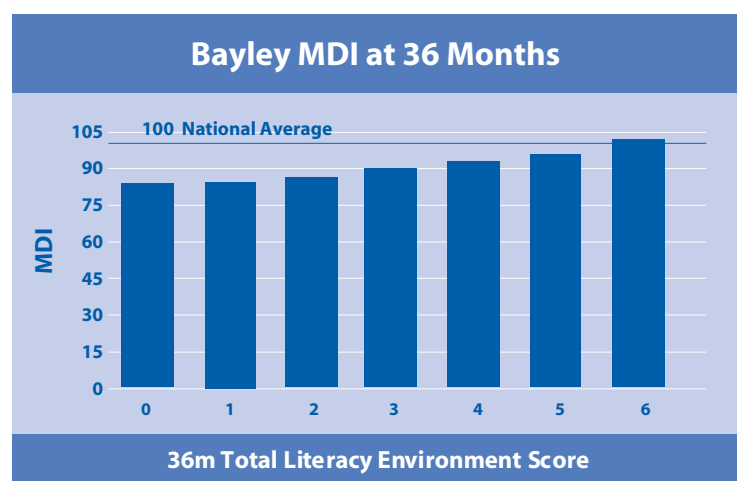
Parent practices and program services can enhance language and cognitive outcomes of high risk children.

Three features of early home literacy environments influence early language and cognitive development: (1) language-learning practice (e.g., shared bookreading or storytelling), (2) sensitive and responsive parenting, and (3) availability of books and other learning materials. Raters scored parents as providing insufficient, moderate, or enriched experiences (with scores ranging from 0-2 points) at each age and summed the scores to obtain a total composite score of the Home Literacy Environment (total of 6 possible points) for each child (Rodriguez et al, 2005). The study found that the Home Literacy Environment score, and the scores for each of the three individual features, contributed to child cognitive and language development. The figures (see right) show that 36-month-old Early Head Start children in homes with high Home Literacy Environment scores scored above or near national norms (score = 100) on measures of cognitive and language development (Rodriguez et al, 2005).

Maternal bookreading positively affects children's vocabulary. In a closer examination of maternal bookreading, children of mothers who read to them daily had larger vocabularies and better language comprehension scores at 14 months of age; larger vocabularies and



The figures above and below show that 36-month-old children's Bayley MDI and PPVT-III scores increased as Home Literacy Environment Scores increased. A score of 100 is the national average for both measures.





Research to Practice: Supporting Language

From the parent report, 45% reported reading daily when children were at 14 months of age, 55% at 24 months, and 54% at 36 months. Across the three assessment points, the likelihood of parents reading to their children was different for specific groups. At 14 months of age, Hispanic children were half as likely to be read to daily; boys were two-thirds as likely. Children were more likely to be read to at this age if they had mothers with higher levels of education or if they were firstborn.

At 24 months, African American and Hispanic children were one-half to two-thirds as likely to be read to daily as White children, consistent with findings reported in other studies (Yarosz & Barnett, 2001). At the same age, children were one and a half times more likely to be read to daily if they and their families were in Early Head Start, compared to the control group.

At 36 months, African American and non-English speaking Hispanic children were about two-thirds as likely to be read to daily. Maternal education and verbal ability, participation in the Early Head Start program, and firstborn status also increased the chances of children being read to daily.

Most children had access to children's books in their homes. At 14 months, 80% of children had access to books in their homes. At 24 months, 85% had access to five or more books and at 36 months, 84% had access to 10 or more books. However, non-English speaking Hispanic children were half as likely to have multiple children's books (in any language) in their homes as other children.

cognitive development scores at 24 months; and stronger vocabulary and cognitive scores at 36 months (Raikes et al, under review).

Starting early matters. Children whose mothers began reading to them daily at 14 months of age had more advanced vocabulary at age 3 than children whose mothers began reading to them daily at 24 months. Children whose parents began reading to them daily when they were 24 months had more advanced vocabularies than children whose parents did not begin reading to them daily before age 3. Thus, it is beneficial to start reading daily to children by 14 months (or earlier). Parents who begin reading regularly to children at an early age are more likely to continue to do so as children become older. Children who are frequently read to at early ages also have larger vocabularies, which seems to motivate their parents to read to them even more (Raikes et al., under review).

Spanish-speaking children benefit from daily bookreading. Spanish-speaking children who were read to daily at age 3 had higher receptive Spanish vocabulary scores (measured by the TVIP, a receptive vocabulary measure for Spanish-speaking children, at age 3). However, Spanish-speaking children did not have access to as many books as English-speaking children (see left column) (Raikes et al, under review).

The children of Spanish-speaking mothers who used a highly interactive style of reading had more advanced language development than other Spanish-speaking children. The manner in which mothers read had a greater impact than the frequency of reading for Spanish-speaking children. Mothers with sensitive interaction during reading could be encouraged to increase the approaches that produced positive results (Boyce et al., 2005).

Children also benefit when fathers read to them. Children whose fathers read to them daily by 24 months of age had more advanced vocabulary and cognitive skills at age 3 than those whose fathers did not read to them. However, compared to mothers, fewer fathers reported reading frequently to children (Duursma, et al., 2005).

Daily bookreading benefits children of mothers with low verbal ability. The study also found that preschool children of mothers with low verbal ability had higher scores in verbal and cognitive ability when their mothers read to them daily. The Early Head Start Research and Evaluation Project is one of the first studies to demonstrate that bookreading can promote cognitive and language development among children whose mothers have low verbal abilities (Raikes et al., under review).

How parents read to infants and toddlers matters. Other studies, beyond those completed by Early Head Start researchers, show that children at risk make the greatest gains when parents engage in dialogic reading (Whitehurst et al., 1994). In this method, parents read a small segment, ask questions, and help the child tell the story. This creates a conversation or dialogue, encourages the child to be actively engaged, and enhances the child's comprehension.

Child care programs can enhance the language and cognitive development of high-risk children

Though children in Early Head Start center-based settings demonstrate stronger cognitive outcomes than their control group counterparts (ACF, 2002), the findings on expected language development outcomes were not consistent. Findings suggest that children's experience in high-quality centers was not associated with higher language outcomes, beyond the contributions of children's home environments (which were strongly associated with early language development). These findings suggest that Early Head Start programs could do more to promote language development in center-based settings. Closer study of the specific types of language interactions children experienced in child care centers may reveal how children's experiences in those settings relate to their language outcomes.

“Children who are frequently read to at earlier ages also have larger vocabularies....”

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IMPLICATIONS FOR PROGRAMS AND PARENTS

The research highlights various practices parents and program staff can implement to enhance children's linguistic and language development before age 3. These practices are critical because the average Early Head Start child begins to fall below language and cognitive national norms by the time they are 24 months old. With effective language and cognitive development support, Early Head Start children can learn to become good communicators and have the language skills needed for kindergarten.

- ◆ **Program staff should encourage parents to (1) provide frequent opportunities for the child to practice language through conversations and bookreading, (2) be responsive and attentive to their child, and (3) provide language and literacy materials in the home.** Each of these elements appears to contribute to positive language and cognitive outcomes in children.

- ◆ **Help parents find books and other literacy materials in their first language.** Non-English speaking families often have fewer children's books than English-speaking families. Program staff should strive to support children's development in their first language and in English. Staff should promote the importance of books and reading and help non-English speaking families find books in their first language and in English. Many programs have established book-lending libraries so parents have an ongoing supply of children's books.

- ◆ **Teach parents *how* to read to very young children.** Reading to children should be a pleasant, fun, and engaging time. Parents should ask questions, pause for the child's response, answer questions, and expand on the child's responses during the bookreading experience. To teach parents how to read in this way, use videos and model exercises. Books for younger children do not need to be read cover to cover. Many books for young children do not have words, so the parent and child can interact by describing the pictures and stories. Parents of all languages can be introduced to wordless books as a way to creatively share stories with their young children. Wordless books foster parent-child conversations, imagination, and constructive storytelling. Wordless books also help parents recognize that early bookreading is more about book sharing than reading text verbatim.

- ◆ **Help parents establish daily bookreading habits when children are very young.** Promote daily bookreading to begin when children are no older than 12 months, even if daily reading is only for a brief period of time. Ideally, start daily bookreading before children begin to talk. Even before babies



can say words, book sharing allows them to look at pictures with their parents, learn about turning pages and moving from left to right on a page, and just enjoying time together.

- ◆ **Pay particular attention to reading and language experiences for boys, later-born children, and children of color,** who are less likely to receive early literacy experiences than their counterparts.

- ◆ **Pay particular attention to language development for children who are learning two languages.** It is typical for language learning to be slower for dual-language learners. Specifically monitor what the child comprehends and expresses in both languages. This will ensure important language and

cognitive inputs are being received during the early years. Support parents in natural interactive styles of reading and be sure books are available in both languages.

- ◆ **Support storytelling, nursery rhymes, and singing songs with infants and toddlers.** In some cultures these traditions are stronger than bookreading traditions. Encourage children's language development by using their own language traditions and learning new approaches.

- ◆ **Remember that fathers and other caregivers are important sources of language learning for young children.** Encourage fathers and other caregivers to participate in reading and storytelling with children.

- ◆ **Provide support for all family members in their own literacy experiences.** As children become older, parental reading ability will become an important aspect in the continuing development of children's literacy skills. Parents who model reading and are comfortable reading are better able to support children's linguistic competency and provide continued encouragement of children's literacy. Support parents with their own literacy goals, particularly when they are learning English.



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- ◆ **In child care settings, take every opportunity to promote children's language development.** Many group programs provide quality care overall, but may not provide individual children ample opportunities to practice language. It is critical to focus on this aspect in the child care environment, because many Early Head Start children have lower scores in language development than the national norms. Teachers can promote language development by waiting for and encouraging children to speak, listening, expanding on what children say, and paying attention to labeling objects and events in classrooms. Teachers should focus on communication with preverbal children, attending to children's gestures and signs and talking



with babies. Teachers can also read and tell stories daily. Program staff should continuously ask: Are we doing everything we can for children to practice language? Is each child engaged in conversations everyday? How can we increase children's individual language experiences?

- ◆ **Offer staff development for teachers and home visitors to improve their ability to enhance language development.** It is vital for Early Head Start teachers to stay current on effective methods to promote language development, as language development is key for literacy and later school success. Additionally, early language inputs are important for later language development.

The Study

The Early Head Start Research and Evaluation Project included studies of the implementation and impacts of Early Head Start under the direction of the Office of Planning, Research and Evaluation, in the Administration for Children and Families, U.S. Department of Health and Human Services. It was conducted by Mathematica Policy Research, Columbia University National Center for Children and Families, and the Early Head Start Research Consortium of researchers in 15 universities. Research was conducted in 17 Early Head Start sites representing diverse program models, racial/ethnic makeup, auspice, and region. In 1996, 3,000 families enrolled in an experimental design study, and children, families, and children's child care

arrangements were assessed when children were 14, 24, and 36 months old. Families were interviewed about services at 7, 16, and 28 months after random assignment. Child assessments included a wide array of child cognitive, language, and social-emotional measures using direct assessment and parent report. Parent assessments included observation (videotaped and by interviewers) and self-report. Families in the program and control groups were demographically comparable at baseline and assessment points. Two implementation reports and two impact reports (when children were 24 and 36 months old) have been completed and are available at the Web site listed below.

References

- Boyce, L.K., Cook, G.A., Roggman, L.A., & Innocenti, M.S. (2005). *Early language and literacy: Book sharing behaviors of Latino mothers and their young children*. Biennial Meeting of the Society for Research in Child Development, Atlanta, GA, April 7-10.
- Duursma, E., Raikes, H., Luze, G., & Pan, B.A. (2005). *Bookreading to children at ages 24 and 36 months by fathers and mothers in low-income families*. Biennial Meeting of the Society for Research in Child Development, Atlanta, GA, April 7-10.
- Hart, B., & Risley, T. (1995). *Meaningful Differences in the Early Experiences of Young American Children*. Baltimore, MD: Brookes.
- Raikes, H., Pan, B., Luze, G., Tamis-LeMonda, C., Brooks-Gunn, J., Constantine, J., Tarullo, L., Raikes, H.A., & Rodriguez, E. (Under review). *Mother-Child Bookreading in Low-Income Families: Correlates and Outcomes During the First 3 Years of Life*.
- Rodriguez, E.T., Tamis-LeMonda, C., Spellmann, M. (2005). *Children's early literacy environment: Promoting language and cognitive development over the first four years of life*. Biennial Meeting of the Society for Research in Child Development, Atlanta, GA, April 7-10.
- Whitehurst, G. J., Arnold, D. S., Epstein, J. N., Angell, A. L., Smith, M., & Fischel, J.(1994). A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology*, 30, 679-689.
- Yarosz, D. J., & Barnett, W. S. (2001). Who reads to young children? Identifying predictors of reading of family reading activities. *Reading Psychology*, 22, 67-81.